A New Identification of the Monkeys Depicted in a Bronze Age Wall Painting from Akrotiri, Thera

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Abstract

Bronze Age Aegean (ca. 3500-1100 B.C.) wall paintings from the islands of Crete and Thera depict monkeys in a variety of roles such as running wild in nature, possibly following (trained) commands, and participating in sacred activities. These images, while stylistically Aegean, are traditionally considered closely related to—and descendant from—Egyptian, Near Eastern, and Mesopotamian monkey imagery. While monkey depictions in the latter regions may provide species-specific characteristics, Aegean wall paintings typically lack this level of detail. In an attempt to better understand the relationships between the monkeys depicted in Aegean wall paintings and the species that were encountered by the Aegean, Mesopotamian, and Egyptian peoples, a collaborative team of primatologists, a taxonomic illustrator, and an art historian/archaeologist identified species-indicative visual characteristics. This collaborative approach led us to identify a new region that serves as source for monkey iconography: the Indus River Valley. With an emphasis on the primatological aspect and the growing corpus of possible Indus goods and possible species found in the Aegean, a broader iconographic and socio-religious sphere of interaction emerges. In this expanded system, Mesopotamia functions as an intermediary that enables the movement of goods, raw materials, people, and iconography between the east and west. Mesopotamia may have even afforded an opportunity for Aegean peoples to encounter the creatures themselves, first-hand. Of primary importance to the methodology employed for this project is the cooperation of scholars from disparate disciplines—the stitching together of various projects and experiences in attempt to answer both new and previously unanswerable questions. This

type of interdisciplinary approach can be applied to other species, sites, paintings, and objects to hone our understanding of period, place, animal, movement, and trade.

Keywords: Vervet; Langur; Indus; Aegean; Archaeology; Trade

Introduction

The art of the Bronze Age Aegean (ca. 3,200-1,100 B.C.E.) is known for its early, naturalistic depictions of plants, animals, and humans. Among the corpus of animals chosen for depiction, one particular creature bears a clearly unique, often liminal position: the monkey. This animal occupies a range of roles, from wild, to trained pets and helpers, to cultic (Pareja 2017). The imagery of these creatures, like much of the flora and fauna in Aegean art, often lacks defining characteristics that can be used to identify the species depicted. Perhaps because of this tendency, many art historians and archaeologists assume that many creatures in Aegean art are not accurate depictions of particular species and therefore relegate them to the realm of fantasy, or at least the starkly inaccurate. The wall paintings of monkeys in Room 6 of Building Complex Beta at Akrotiri, Thera, however, are one of the exceptions to the artistically generic tendency (Figs. 1, 2). Here, we aimed to identify monkey species portrayed in Aegean art to learn more about both trade relations and the possible roles of the monkey in the Aegean. Our results contribute to a newly emerging picture of such exchange. To understand the context for this study and the resulting implications, we review the evidence for an Indus-Aegean relationship (Fig. 3). We also clarify the evidence for the traditional Egyptocentric outlook that inspires some scholars' resistance to the possibility for such an expanded network of connectivity.

Primatological Analysis

The lack of nuanced species attributions in Aegean art ultimately inspired this project. Previous attempts at species identifications are largely based on the observations of art historians or archaeologists: experts in their respective fields with keen observational skills, but who do not specialize in the study of live primates. In an attempt to minimize bias and expand the expert knowledge base from which identifications could be drawn, a

disparate group of scholars was chosen for this project: primatologists, a taxonomic primate illustrator, and an art historian/archaeologist. The primatologists study not only the morphological characteristics of monkeys and the ways in which they move, but also devote significantly more effort toward understanding the creature's broad range of behaviors. The primate taxonomic illustrator also contributes a unique skillset; he is particularly aware of the traits that an artist may choose to emphasize or to look for when rendering a particular species of monkey. These types of acute, highly specialized knowledge are required for a deeper and more thorough analysis of the possible species depicted than has been previously attempted. This collaborative project is of critical importance because this team's observations are not steeped in a tradition of art history and archaeology, unlike much of the previous scholarship on monkeys in Aegean art. Rather, they are drawn from a scientifically demonstrable set of biological simian qualities that the collaborators are particularly and formally trained to study.

Our goal was to identify possible species attributions for monkeys in Aegean art. To this end, the team examined the morphological characteristics of Egyptian, Near Eastern, Mesopotamian, and Aegean monkey and ape iconography in plaques, glyptic art, wall paintings, ornamental pinheads, and figurines. Although most representations were too ambiguous or poorly preserved for precise attribution (particularly the case for most wall paintings), some early attempts at identification were reinforced, and one wall painting yielded significant new information.

Although particular species are clearly depicted in Egyptian art (Figs. 4, 5), this is not the case for most monkeys in Aegean art. After examining the morphological characteristics of the Aegean representations of monkeys, we agree that most species of monkeys depicted in Aegean art are possible varieties or amalgamations of the same baboons depicted in Egyptian art, such as the hamadryas and olive baboons (Fig. 6). This work reinforces the parallels between Aegean and Egyptian art that is traditionally suggested by archaeologists and art historians.

However, we note specific qualities of the monkeys from room 6 of Building Beta at Akrotiri (Figs. 1, 2; Doumas 1992). The shape, posture, and color patterns of the monkeys are similar to one another, and no outliers are immediately apparent, which indicates that these are likely members of the same species. The face can be described as "lemur-ish [with] buggy yellow eyes, a cat-like nose, and round ears," but the postures

and limb proportions indicate that the animal is a terrestrial quadruped. The facial pattern defies a precise match. Nevertheless, the dark face with a white ring of fur and the white stomach and inner thighs give the general impression of the cat-sized vervet (*Chlorocebus*) (Figs. 7a, 7b). A cursory examination of the animal's appearance seems to allow for the confirmation of the vervet identity. However, two traits distinguish the depicted monkeys from any of the suggested species from Egypt: the tail and the feet. Vervets carry their tails straight behind them with a slight downward curve at the end (Bernstein 1978), whereas the Aegean monkeys carry their tails upward in a C- or S-shaped curve. Vervets also have black feet (de Jong & Butynski 2010; Rowe 1996; Rowe and Myers 2016), which are visible on both wild vervets and in their depictions in Egyptian art; these Aegean monkeys have white or blue feet. With these clear divergences in posture and coloring, we identify a new taxonomic attribution: these primates are likely gray langurs or Hanuman langurs (*Semnopithecus* sp.) (Figs. 8a, 8b).

This genus of langur is indigenous to Nepal, Bhutan, and northern India, including the Indus River Valley. The Hanuman langur is considerably larger than the vervet, and it varies in pelage, meaning that some traits, such as tufted tails, are present on some individuals but not others (Ashalakshmi et al. 2014; Oppenheimer 1977). There is variation in tail position, but the northern morphotype of the Hanuman langur is characterized by walking with the tail carried upward, with the curve towards the head (Cheten Nag et al. 2011) (Figs. 8a, 8b). As such, the defining traits of langurs discussed here have caused confusion for archaeologists and art historians when considering the types of monkeys represented in Bronze Age Aegean media (particularly tiny seals), and these traits may now be explicable as key features of langurs. Furthermore, an Aegean-Indus connection may also help to clarify the possible interpretations of some of the outliers in Aegean monkey iconography that currently have no local or nearby parallels.

Archaeological Support

No physical remains of monkeys or apes are currently known from the Aegean, and therefore many scholars consider Egypt as the sole inspiration for the pictorial representation of monkeys, as it is the nearest location where both imagery and remains of the indigenous creatures are abundant and well preserved (Marinatos 1984; Cline 1994; Morgan 1997; Parker 1997; Strasser 1997; Greenlaw 2011; Phillips 2008; Pareja 2017;

Fisher 2019). The monkeys present in the Ancient Egyptian landscape and iconography that are compared to the monkeys in Aegean art include the olive baboon (*Papio anubis*), Hamadryas baboon (*Papio hamadryas*), vervet (*Chlorocebus pygerythrus*), and grivet (*Chlorocebus aethiops*) (Greenlaw 2011; Phillips 2008; Pareja 2017; Fisher 2019). These African monkeys serve both as iconographic comparanda (Figs. 4, 5) and possible nearby living creatures on which the Aegean peoples may have based their imagery. The argument that Ancient Egypt provided the only monkey imagery and/or live animals that Aegean people encountered during the Bronze Age is most frequently supported by referencing the abundance of Ancient Egyptian imports and other Egyptianizing objects found in the Aegean – particularly on Crete (Marinatos 1984; Cline 1994; Greenlaw 2011; Phillips 2008; Pareja 2017; Fisher 2019). Accordingly, the monkey traits depicted in Aegean art are viewed through and limited by the Egyptian lens: one sees only Egyptian animals when one only considers Egypt as an origin.

Evidence for Exchange: the Aegean, Mesopotamia, and the Indus

Trade between the Aegean, Ancient Egypt, and Mesopotamia (together with the Near East) is accepted and well documented from as early as the 3rd millennium B.C., however this exchange likely began even earlier (Wiener 2013). Ample evidence for the strong, long lasting exchange between these regions through most of the Bronze Age survives as imported raw materials, objects, motifs, and as textual evidence (Warren 1974; Cooper 1983; Dunham 1985; Cline 1994; 2013; Aruz 2003; Wiener 2013; Dubcová 2015; Pareja 2017; Chapin and Pareja forthcoming 2019; Pareja forthcoming 2020). Nevertheless, some of the most valued raw materials that convey elite status are not sourced from any of these three regions but from places to the east of the Zagros Mountains. Because of this, lapis lazuli, carnelian, and tin become strong and direct indicators of exchange that also aid in establishing the earliest possible dates for (in)direct trade between the Aegean and the far east.

The appearance of lapis lazuli extends farther from the source mines in Badakhshan, Afghanistan as time progresses, which indicates likely pre-existing exchange routes (Sarianidi and Kowalski 1971; Colburn 2008; Chapin and Pareja 2019; Pareja forthcoming 2020). Similarly, the movement of carnelian, tin, and other raw materials supports the existence of preexisting trade relations (Weeks 1999; Aruz 2003; Ratnagar 2004;

Colburn 2008; Kenoyer 2008). Tracing the exchange of these and other materials, various production technologies, the transmission and translation of iconographies, as well as evidence from surviving textual sources provides a terminus-post-quem for the contact between each region in which they are found beyond the source location (Cooper 1983; Mendleson 1983; Dunham 1985; Kenoyer 1997; Aruz 2003; Ratnagar 2004; Colburn 2008; Blakolmer 2017; Chapin and Pareja forthcoming 2019; Pareja forthcoming 2020). Perhaps most importantly, these materials and images continue to spread into the Aegean, and they are well established indicators of luxury by the beginning of the Late Bronze Age, the period during which the wall painting from Building Complex Beta was created. Because the results of this project address the movement of imagery, we review the iconographic connections between Indus and Aegean with a particular emphasis on monkeys to demonstrate that this animal served as an adopted and adapted motif between the Indus east and Aegean west and the regions between.

The earliest object that may indicate an indirect Indus-Aegean connection is a seldom-referenced ivory monkey figurine from Early Bronze Age funerary contexts at Trapeza, on Crete (Pendlebury 1939; Zervos 1956; Yule 1980; Phillips 1991; Karetsou 2000; Pareja 2017; forthcoming 2020). The figurine sits upright, unlike any other contemporary published monkey figurines from the island, and it preserves a cross-and-chevron motif on its circular base, allowing the item to also function as a seal (Fig. 9). Both the unique pose of the monkey and the pattern on the base can be traced back through both time and space as one moves eastward: they appear in the Near East, Mesopotamia, and Bactria. The elevated seating posture of the monkey may have originated in metal compartmented stamp seals from Bactria (Pittman 1984), and the cross-and-chevron motif is found as early as 3500 B.C. in the Indus, where its use continues through the late Harappan period, or 1500 B.C. (Mackay 1943; Enault 1979; Amiet 1988; Sarianidi 1998; Shinde et al. 2005). A rarely discussed early Late Bronze Age carnelian seal from Crete also bears an iconographic motif that likely originated in the Indus. The object shows a male figure standing beside a monkey that wears a belt/halter (Fig. 10). Parallels from the Near East and Mesopotamia appear as clay tablets that show a male figure who is accompanied by one or two monkeys, often with collars and leashes. Mendleson (1983) suggests that this composition likely shows a scene adopted from Elam, from where it was likely imported from even farther east, where monkeys are indigenous. If this is the case, and the motif of a travelling male

figure represents a performer or perhaps knowledgeable caretaker for the monkey(s), then it is possible that the single Aegean example of this composition is related to, or perhaps derived from, the scenes from farther east. This notion is supported by the Minoan iconographic quotation of Mesopotamian presentation scenes. Perhaps the most iconic artwork with monkey imagery from the Bronze Age Aegean is another preserved wall painting from Akrotiri, Thera. The Offering to the Seated Goddess wall painting is central to many scholars' understandings and reconstructions of Minoan and Cycladic ritual behaviors and as such is frequently referenced as completely Aegean in location, style, and subject (Fig. 11). The composition includes a young female approaching from the left and depositing floral offerings into a basket; an oversized, anthropomorphized blue monkey who faces left and extends a sample of the young woman's offering to a seated goddess; a large goddess who faces left and sits on a tripartite raised structure as she extends a hand toward the monkey; and a leashed griffin who stands at attention with extended wings behind the seated goddess.

Mesopotamian and Near Eastern cylinder seals, however, bear an almost identical composition that predates the rendering of the Offering to the Seated Goddess wall painting by more than one thousand years (Davaras and Soles 1997; Pareja 2017). The arrangement is used so frequently on cylinder seals that it garners its own name in Mesopotamian and Near Eastern scholarship: the Presentation Scene (Fig. 12). In these compositions, two figures face right and approach a larger figure who faces left, sits on a raised seat, and is often accompanied by another figure (sometimes a monster or hero) to the right, behind the seated figure. Some of these images also feature a monkey between the approaching figures and the large seated figure, which indicates at the very least that Aegean artists were aware of and possibly inspired by these Mesopotamian motifs. Importantly, the Cycladic wall painting that bears this Mesopotamian composition – complete with monkey -- is from the same site and period as the wall painting discussed below.

Discussion

Our new identification for the type of monkey depicted in room Beta 6 not only shows the movement of this imagery from east to west, but it also indicates that the Cycladic artists likely had *direct* contact with langurs. In 2017, Pareja argued that some of the details depicted on the monkeys in Beta 6 served as proof that Aegean

people directly observed live vervets rather than copying existing Egyptian artwork. The Cycladic artist(s) did not copy an Egyptian rendering of monkeys because the details found in the Cycladic wall painting are often lost in Egyptian art (due to the adherence to the artistic canon). To clarify: Egyptian art often superficially renders a standardized monkey-type (e.g., *monkey, monkey, monkey*). Theoretically, an Aegean copy of Egyptian iconography should show the same, or else at least suffer copy-of-a-copy syndrome (meaning that details of depiction are often altered, misrepresented, or lost when other cultures attempt to copy of a piece of artwork, much less a motif such as the monkey). The particular details of the monkeys in the wall painting – from the facial markings, lemur-ish eyes, and particularly the position of the tail – are rendered with such accuracy that the animals are clearly treated as individual animals (e.g., *this* monkey, *that* monkey, *the other* monkey). This treatment indicates that the artist probably observed the live animals, whether locally or (more likely) abroad. In the past, this wall painting was used to reinforce the already-strong relationship most archaeologists perceived between Egypt and the Aegean. Pareja was correct in theory, but the theory was applied to the wrong animals and therefore the wrong region.

The coupling of this theory with the new identity for the depicted monkeys in room Beta 6 has massive implications for international trade during the Bronze Age. Although this image is, admittedly, yet another iconographic implication for Aegean-Indus exchange, the evidence it bears for the direct observation of these monkeys is striking. Rather than reinforcing the well-established relationship with nearby Egypt, this wall painting shows possible indirect contact with the Indus by virtue of the artists' direct observation of an animal unique to that region.

Importantly, we do not suggest or argue that live langurs were traded or moved from the Indus to the Aegean. Without physical remains of this type of monkey in the Aegean, such an argument must be left to the realm of speculation. Nevertheless, the accurate depiction of such anatomical details as to render a precise identification from primate specialists today suggests that contact between Cycladic artists and live creatures occurred at some point, whether in the Near East, Mesopotamia, or farther east. Granted the evidence for Aegean-Mesopotamian and Mesopotamian-Indus exchange and the admittedly few items currently known that serve as referents to the far east, it is *possible* that some of the monkeys that Mesopotamia imported from the Indus were observed by travelling Aegean people.

The *iconography* of the animal, however, was likely carried and transmitted—whether as items intended for trade, as personal possessions/adornment, or even as indicators of position or status—along established trade routes that spanned from the Indus to the Aegean via the regions between, including Bactria, Elam, Mesopotamia and the Near East. Of course, no single entity is responsible for complex Eurasian exchange during the 4th and 3rd millennia B.C., and therefore it would be unreasonable to suggest that a single group intentionally disseminates this type of iconography. Rather, goods and materials moved directly and indirectly from the Indus, through Bactria, Elam, Mesopotamia, the Near East, (even possibly the Caucasus) and into the eastern Aegean, as Wilkinson illustrates (2014). Nevertheless, particularly strong evidence for these extensive routes survives from older, larger sites like Susa, in the form of small objects, raw materials, and iconography (Davaras 2005, 2003; Kohl 2007; Harper, Aruz, and Tallon 1992).

The Near East and/or Mesopotamia are rarely entertained as locations from which monkeys (and therefore their iconography) may have come to the Aegean. Monkeys are not indigenous to the Aegean, Near East, and Mesopotamia, and the surviving textual evidence indicates their presence in Mesopotamia via trade with Egypt and somewhere farther east (Scharff 1931; Van Buren 1939; Mallowan 1966; Boehmer 1974; Boochs 1982; Dunham 1985; Moorey 1987; Podzorski 1988; Bintliff and Sbonias 1999; Matthäus 2000; Roaf 2004; Aruz 2008). Nevertheless, the broader network of Mesopotamian exchange and the longstanding trade relations between Mesopotamia and the Indus allows for Mesopotamia to function as an intermediary between the east and west. When coupled with the textual and iconographic evidence, an avenue opens through which the transmission of monkey iconography—particularly the Hanuman langur—becomes possible during a much earlier period than traditionally thought.

This collaborative project highlights the ways in which interdisciplinary studies can benefit multiple fields. Not only are the archaeological questions regarding the relations among Bronze Age regions explored, but this work also adds to our historical understanding of human-primate interactions. By demonstrating a wider range of interaction between Hanuman langurs and humans, this study prompts new lines of inquiry regarding both the ethnoprimatology of this culturally-significant primate and the role of exotic non-human primates in ancient society.

Acknowledgments

The authors extend their gratitude to the Archaeological Institute of America (AIA) and the Ancient Painting Studies Interest Group (APSIG) for the opportunity to present the preliminary results of this study. Marie Pareja personally thanks Tristan Carter, Anne P. Chapin, Tiffany L. Hunt, Leanna Kolonauski, and Kristine Mallinson for their thoughts, edits, and enthusiasm for this project. Illustrations copyright 2019 Stephen D. Nash/IUCN SSC Primate Specialist Group.

Conflict of Interest: The authors declare that they have no conflicts of interest.

Ethical Approval: This article does not contain any studies with human participants or animals performed by any of the authors.

Figure Captions

Figure 1: Monkeys Fresco on the west wall of Room 6 of Building Complex Beta at Akrotiri, Thera. Image granted from the photo archive of Thera Akrotiri Excavations.

Figure 2: Monkeys Fresco on the north wall of Room 6 of Building Complex Beta at Akrotiri, Thera. Image granted from the photo archive of Thera Akrotiri Excavations.

Figure 3: Map of the Aegean, Egypt, Near East, Mesopotamia, and the Indus. Adapted from Google Earth.

Figure 4: Dwarf with Dogs and Monkey. Adapted from Klebs 1915: 34, fig. 21.

Figure 5: Monkey functions as guard of property. Adapted from Klebs 1915: 33, fig. 20.

Figure 6: Line Drawing Reconstruction of the Saffron Gatherer fresco from The Lower Keep, Knossos, Crete, Greece. Image courtesy of Marie N. Pareja.

Figure 7a: Outline of Vervets (*Chlorocebus*). Illustrations by Stephen D. Nash.

Figure 7b: Illustration of Vervet (*Chlorocebus*). Illustration by Stephen D. Nash.

Figure 8a: Outline of Langurs (*Semnopithecus*). Illustrations by Stephen D. Nash.

Figure 8b: Illustration of Langur (*Semnopithecus*). Illustration by Stephen D. Nash.

Figure 9: Monkey Stamp Seal from Trapeza, Crete, Greece. Adapted from Pareja 2017: 54, fig. 5.1.

Figure 10: Line drawing of A Man and Monkey on an Amygdaloid Seal from Prassa, Crete, Greece. Adapted from CMS III 357.

Figure 11: Offering to the Seated Goddess Fresco from Room 3a, Xeste 3, Akrotiri, Thera, Greece. Image courtesy of Ray Porter.

Figure 12: Line Drawing of a Mesopotamian Presentation Scene. Adapted from British Museum Object number 115418.

References

Amiet, P. (1988). "Antiquities of Bactria and Other Iran in the Louvre Collection," in G. Ligabue and S. Savatori (eds.), *Bactria: An Ancient Oasis Civilization from the Sands of Afghanistan*, 157-180. Venice, Centro Studi Ricerche Ligabue.

Aruz, J. ed. (2003). *Art of the First Cities: the Third Millennium B.C. from the Mediterranean to the Indus*, New Haven, Yale University Press.

————— (2008). *Marks of Distinction. Seals and Cultural Exchange Between the Aegean and the Orient (ca. 2600-1360 B.C.)*, Mainz am Rhein, Philipp von Zabern.

Ashalakshmi, N.C., K.S. Chetan Nag, K. Praveen Karanth (2014). "Molecules Support Morphology: Species Status of South Indian Populations of the widely distributed Hanuman Langur," *Conserv Genet* 16, 43-58.

Bernstein, P.L., W.J. Smith, A. Krensky, and K. Rosene (1978). "Tail Positions of *Cercopithecus aethiops*," *Ethology* 46.3, 268-278.

Bintliff, J. and K. Sbonias, eds. (1999). *Reconstructing Past population Trends in Mediterranean Europe (3000 B.C.-A.D. 1800)*, Oxford, Oxbow Books.

Blakolmer, F. (2017). “Deities above animals. On the transformation of Near Eastern iconography in Minoan Crete,” in *Proceedings of the 12th International Cretological Congress, Irakleio, 22nd-26th September 2016, 1-9.*

Boehmer, R. (1974). “Das Rollsiegel in prädynastischen Ägypten,” *Archäologischer Anzeiger* 89: 495-514.

Boochs , W. (1982). *Siegel und Siegeln im Alten Ägypten*, Sankt Augustin, H. Richarz.

Chakrabarti, D.K. (1993). “‘Long-Barrel Cylinder’ beads and the Issue of Pre-Sargonic Contact between the Harappan Civilization and Mesopotamia,” in G. Possehl (ed.), 265-270. Oxford, IBH Publishing Company.

Chapin, A. and M.N. Pareja (2019 forthcoming). “Peacock or Poppycock? Investigations into Exotic Animal Imagery in Minoan and Cycladic Art,” in B. Davis and R. Laffineur (eds.), *ΝΕΩΤΕΡΟΣ: Studies in Bronze Age Aegean Art and Archaeology in Honor of Professor John G. Younger on the Occasion of his Retirement (Aegaeum 44).*

Cheten Nag, K.S., Pramond P., and K. Praveen Karanath (2011). “Taxonomic Implications of a Field Study of Morphotypes of Hanuman Langurs (*Semnopithecus entellus*) in Peninsular India,” *International Journal of Primatology* 32: 830-848.

Cline, E.H. (1994). *Sailing the Wine-Dark Sea*, Oxford, TEMPVS REPARTAVM Archaeological and Historical Associates Limited.

————————. (2013). “Aegean-Near East Relations in the Second Millennium B.C.,” in J. Aruz, S.B. Graff, and Y. Rakic (eds.), *Cultures in Contact From Mesopotamia to the Mediterranean in the Second Millennium B.C.*, 26-33. New Haven, Yale University Press.

Colburn, C.S. (2008). “Exotica and the Early Minoan Elite: Eastern Imports in Prepalatial Crete,” *American Journal of Archaeology* 112: 203-224.

Cooper, J.S. (1983). *The Curse of the Agade*, Baltimore, Johns Hopkins University Press.

Davaras, C. (2003). *Parallels and Affinities between Crete and India in the Bronze Age: Some Speculations*, Amsterdam, A.M. Hakkert.

————————. (2005). “Bronze Age Crete and India,” *Indian Historical Review* 32: 126-139.

Davaras, C. and J. Soles (1997). “A New Oriental Cylinder Seal from Mochlos. Appendix: Catalogue of the Cylinder Seals found in the Aegean,” ΑΡΧΑΙΟΛΟΓΙΚΗ ΕΦΗΜΕΡΙΣ 134: 29-66.

de Jong, Y.A. and T.M. Butynski (2010). “Three Syke’s Monkey *Cercopithecus mitis* x Vervet Monkey *Chlorocebus pygerythrus* Hybrids in Kenya.” *Primate Conservation* 25: 43-56.

Doumas, C. (1992). *The Wall Paintings of Thera*, Athens, The Thera Foundation-Petros M. Nomikos.

Dubcová, V. (2015). “The Near Eastern ‘Hero’ and ‘Bull-Man’ and their Impact on the Aegean Bronze Age Iconography,” in J. Mynárová, P. Onderka, and P. Pavúk (eds.), *There and Back Again – The Crossroads II. Proceedings of an International Conference Held in Prague, September 15-18, 2014*, 221-244.

Dunham, S. (1985). “The monkey in the middle,” *Zeitschrift für Assyriologie und Vorderasiatische Archäologie* 75.2: 234-264.

Enault, J.-F. (1979). *Fouilles de Pirak*. *Fouilles du Pakistan* 2, Paris, Diffusion De Boccard.

Fischer, E. (2019). “Minoans in Punt: An Interpretation of the Akrotiri Frescoes,” Presentation at the Archaeological Institute of America Annual Meeting in San Diego, CA, January 3-6, 2019.

Greenlaw, C. (2011). *The Representation of Monkeys in the Art and Thought of Mediterranean Cultures: A New Perspective on Ancient Primates*, Oxford, British Archaeological Reports.

Harper, P.O., J. Aruz, and F. Tallon, eds. (1992). *The Royal City of Susa. Ancient Near Eastern Treasures in the Louvre*, New York, Harry N. Abrams, Inc.

Karetsou, A. (2000) *Κρήτη-Αίγυπτος*: *πολιτισμικοί δεσμοί τριών χιλιετιών, καταλογος*, Athens.

Kenoyer, J.M. (2008). “Indus and Mesopotamian trade networks: New insight from shell and carnelian artifacts,” in E. Olijdam and R.H. Spoor (eds.), *Intercultural relations between south and south-west Asia. Studies in Commemoration of E.C.L. During-Caspers 1934-1996*, 19-28. Oxford, Archaeopress.

————————. (1997). “Trade and technology of the Indus Valley: New Insights from Harappa, Pakistan,” *World Archaeology* 29, 262-280.

Klebs, L. (1915). *Die Reliefs des alten Reiches (2900-2475 v. Chr): Material zur Agyptischen Kulturgeschichte*, Heidelberg, Winter.

Kohl, P.L. (2007). *The Making of Bronze Age Eurasia*, Cambridge, Cambridge University Press.

Mackay, E.J.H. (1943). *Chanhu-daro Excavations 1935-1936. American Oriental Series* 20, Varanasi, Bharatiya Pub. House.

Mallowan, M.E.L. (1966). *Nimrud and Its Remains*, London, Collins.

Marinatos, N. (1984). *Art and Religion in Thera: Reconstructing a Bronze Age Society*, Athens, I. Mathioulakis & Co.

Matthäus, H. (2000). "Crete and the Near East during the early 2nd Millennium B.C.-new investigations on bronze finds from the Idaean Cave of Zeus*,"* in A. Karetsou (ed.), *Proceedings of the 8th International Cretological Congress, Herakleion, 9-14 September*, *1996*, 267-280.

Mendleson, C. (1983). "More monkey business," *Anatolian Studies* 33: 81-83.

Moorey, P.R.S. (1987). "On tracking cultural transfers in prehistory: the case of Egypt and lower Mesopotamia in the fourth millennium B.C.," in M. Rowlands, M. Larsen, and K. Krisitiansen, eds., *Centre and Periphery in the Ancient World*, 36-56. New York, Cambridge University Press.

Morgan, L. (1997). "Power of the beast: human-animal symbolism in Egyptian and Aegean art," *Ägypten und Levante* 7: 17-31.

Oppenheimer, J.R. (1977). "Presbytis entellus, the Hanuman langur," *Primate Conservation,* 469-512.

Pareja, M.N. (Forthcoming 2020). "Early Bronze Age Evidence for Possible Aegean-Indus Trade" in *Animal Iconography in the Archaeological Record: New Approaches, New Dimensions*, eds. Laerke Recht and Katarzyna Zeman-Wisniewska, Equinox Publishing.

Pareja, M.N. (2017). *Monkey and Ape Iconography in Aegean Art*, Uppsala, Astrom Editions.

Parker, P. (1997). "African vervets on Crete and Thera during MM IIIB-LM IA," *American Journal of Archaeology* 101: 348.

Pendlebury, J.D.S. (1939). *The Archaeology of Crete: An Introduction*, London, Methuen.

Phillips, J.S. (2008). *Aegyptiaca on the Island of Crete in Their Chronological Context: A Critical Review* I, Wien, Austrian Academy of Sciences Press.

————————. (1991). *The Impact and Implications of the Egyptian and Egyptianizing Material Found in Bronze Age Crete ca. 3000-ca. 1100 B.C.,* Unpub. Ph.D. Diss, University of Toronto.

Pittman, H. (1984). *Art of the Bronze Age: Southeastern Iran, Western Central Asia, and the Indus Valley*, New York, The Metropolitan Museum of Art.

Podzorski, P. (1988). "Predynastic Egyptian seals of known provenience in the R.H. Lowie Museum of Anthropologie," *Journal of Near Eastern Studies* 47: 259-268.

Ratnagar, S. (2004). *Trading Encounters: From the Euphrates to the Indus in the Bronze Age*, New Delhi, Oxford University Press.

Roaf, M. (2004). *Cultural Atlas of Mesopotamia and the Near East*, Oxford.

Rowe, N. and M. Myers, eds. (2016). *All the World's Primates*, Pogonias Press.

Sarianidi, V.I. (1998). *Myths of Ancient Bactria and Margiana on its Seals and Amulets*, Moscow.

Sarianidi, V.I. and L.H. Kowalski (1971). "The Lapis lazuli Route in the Ancient Near East," *Archaeology* 24: 12-15.

Scharff, A. (1931). *Die Altertümer der Vor- und Frühzeit Ägyptens,* Berlin, K. Curtius.

Soles, J.S. (2016). "Hero, Goddess, Priestess: New Evidence for Minoan Religion and Social Organization," in E. Alram-Stern, F. Blakolmer, S. Deger-Jalkotzy, R. Laffineur, and J. Weilhartner (eds.), *METAPHYSIS. Ritual, Myth, and Symbolism in the Aegean Bronze Age. Proceedings of the 15th International Aegean Conference, Vienna, Institute for Oriental and European Archaeology, Aegean and Anatolia Department, Austrian Academy of Sciences and Institute of Classical Archaeology, University of Vienna, 22-25 April 2014*, 247-252. Liége, Peeters.

Strasser, T. (1997). "The blue monkeys of the Aegean and their implications for Bronze Age trade," *American Journal of Archaeology* 101: 348.

Van Buren, E.D. (1939). *The Fauna of Ancient Mesopotamia as Represented in Art*, Rome, Pontificum institutum biblicum.

Warren, P.M. (1974). "Crete, 3000-1400 B.C.: Immigration and the Archaeological Evidence," in R.A. Crossland and A. Birchall (eds.), *Bronze Age Migrations in the Aegean: Archaeological and Linguistic Problems in Greek Prehistory*, 41-50. Park Ridge, Noyes Press.

Weeks, L. (1999). "Lead isotope analysis from Tell Abraq, United Arab Emirates:New data regarding the 'tin problem' in Western Asia," *Antiquity* 73: 2-7.

Wiener, M.H. (2013). "Contacts: Crete, Egypt, and the Near East circa 2000 B.C.," in J. Aruz, S.B. Graff, and Y. Rakic (eds.), *Cultures in Contact From Mesopotamia to the Mediterranean in the Second Millennium B.C.*, 34-43. New Haven, Yale University Press.

Wilkinson, T.C. (2014). *Tying the Threads of Eurasia: Trans-regional Routes and Material Flows in Transcaucasia, eastern Anatolia and western central Asia, c. 3000-1500BC,* Leiden, Sidestone Press.

Yule, P. (1980). *Early Cretan Seals: A Study of Chronology* (*Marburger Studien zur Vor-und Frühgeschichte* 4), Mainz am Rhein, von Zabern.

Zervos, C. (1956). *L'Art de la Crete: Neolithique et Minoenne*, Paris, Éditions "Cahiers d'art".

Figure 1: Monkeys Fresco on the west wall of Room 6 of Building Complex Beta at Akrotiri, Thera. Image granted from the photo archive of Thera Akrotiri Excavations.

Figure 2: Monkeys Fresco on the north wall of Room 6 of Building Complex Beta at Akrotiri, Thera. Image granted from the photo archive of Thera Akrotiri Excavations.

Figure 3: Map of the Aegean, Egypt, Near East, Mesopotamia, and the Indus. Adapted from Google Earth.

Figure 4: Dwarf with Dogs and Monkey. Adapted from Klebs 1915: 34, fig. 21.

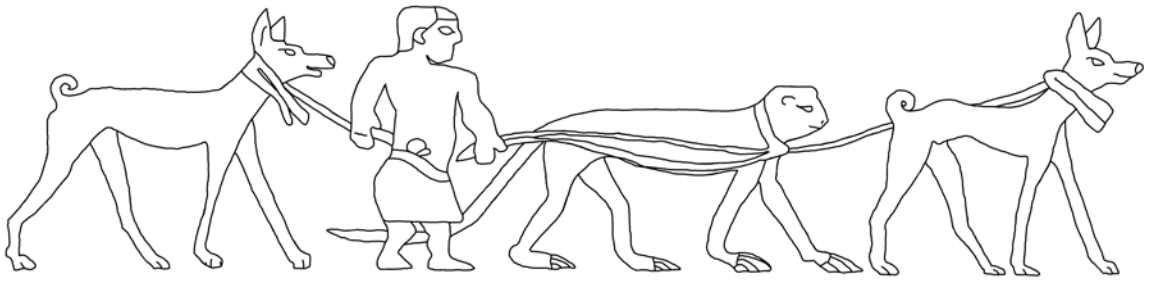

Figure 5: Monkey functions as guard of property. Adapted from Klebs 1915: 33, fig. 20.

Figure 6: Line Drawing Reconstruction of the Saffron Gatherer fresco from The Lower Keep, Knossos, Crete, Greece. Image courtesy of Marie N. Pareja.

Figure 7a: Outline of Vervets (*Chlorocebus*). Illustrations by Stephen D. Nash.

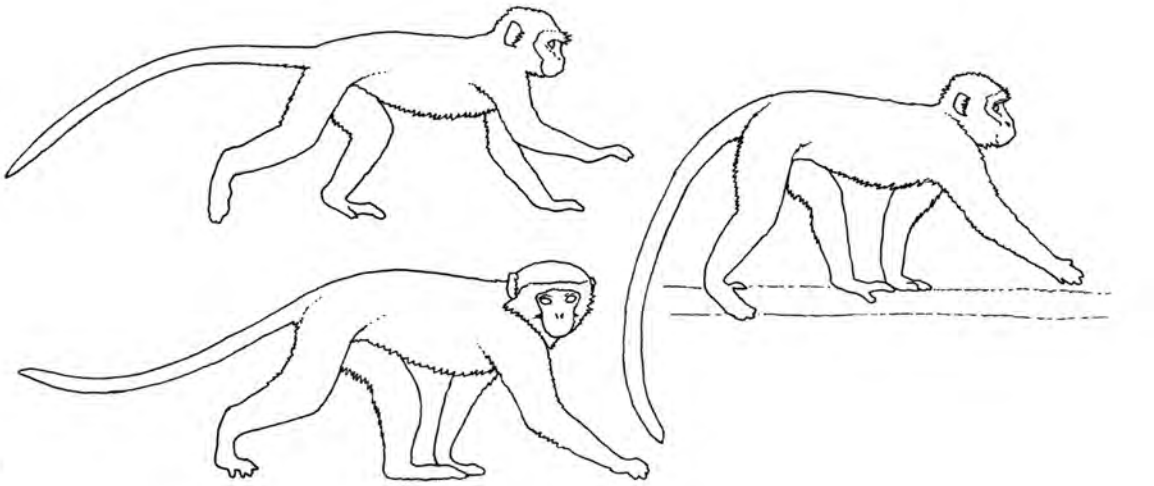

Figure 7b: Illustration of Vervet (*Chlorocebus*). Illustration by Stephen D. Nash.

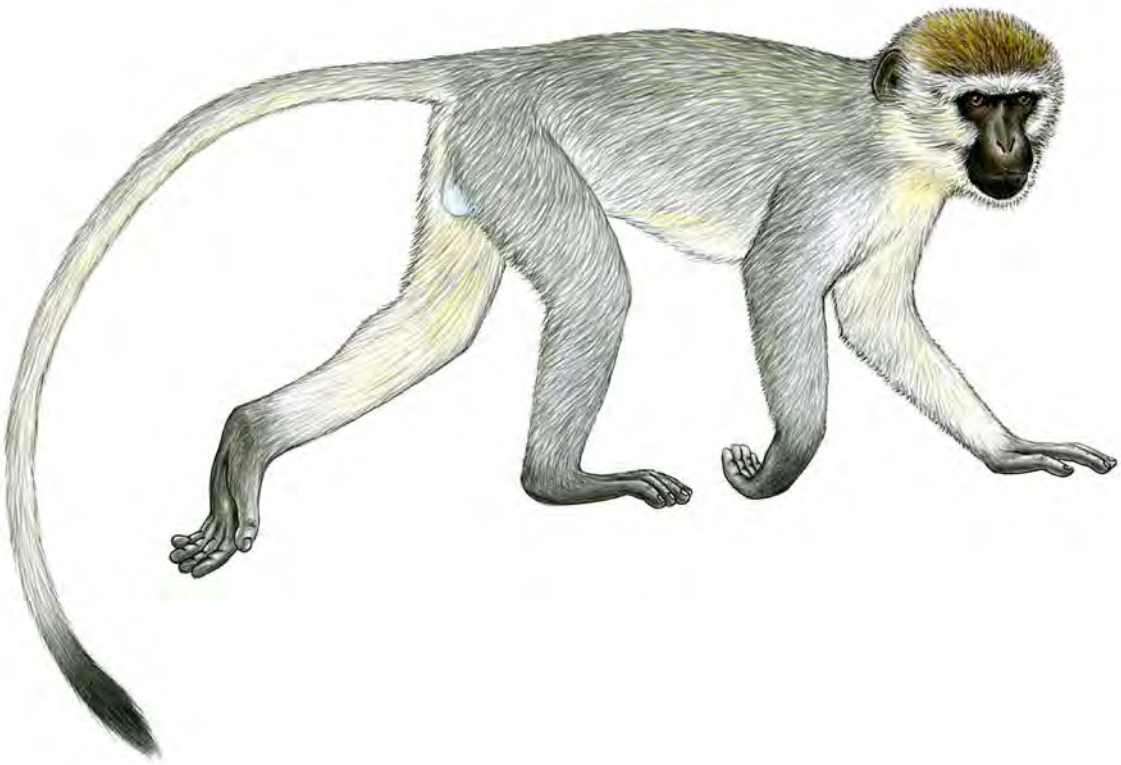

Figure 8a: Outline of Langurs (*Semnopithecus*). Illustrations by Stephen D. Nash.

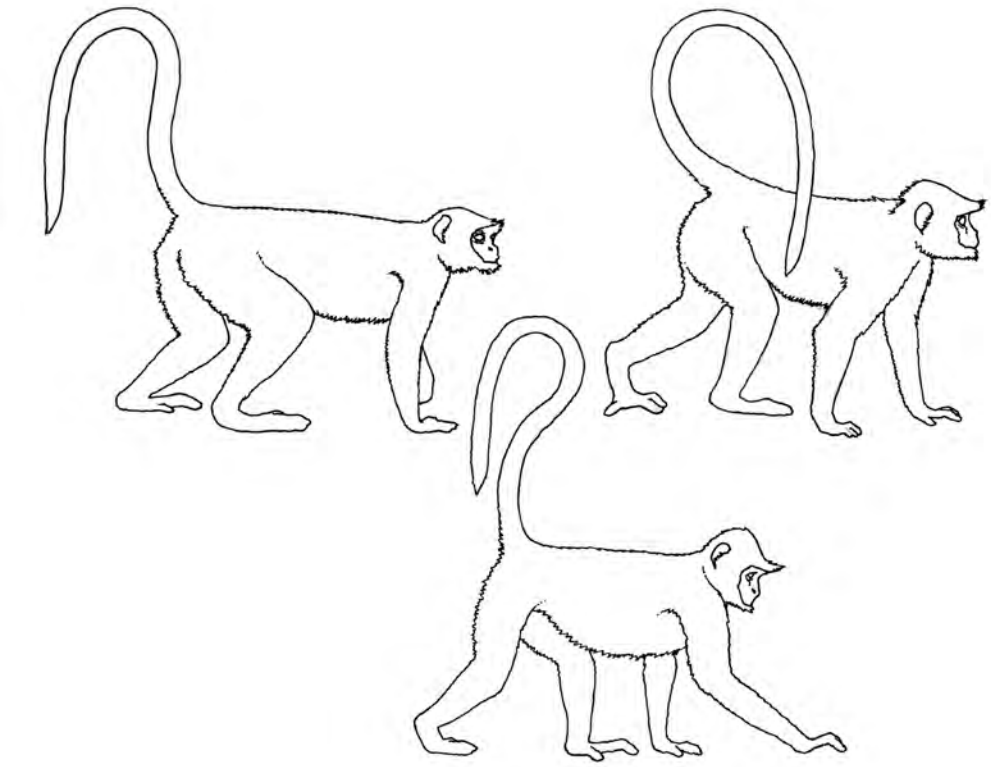

Figure 8b: Illustration of Langur (*Semnopithecus*). Illustration by Stephen D. Nash.

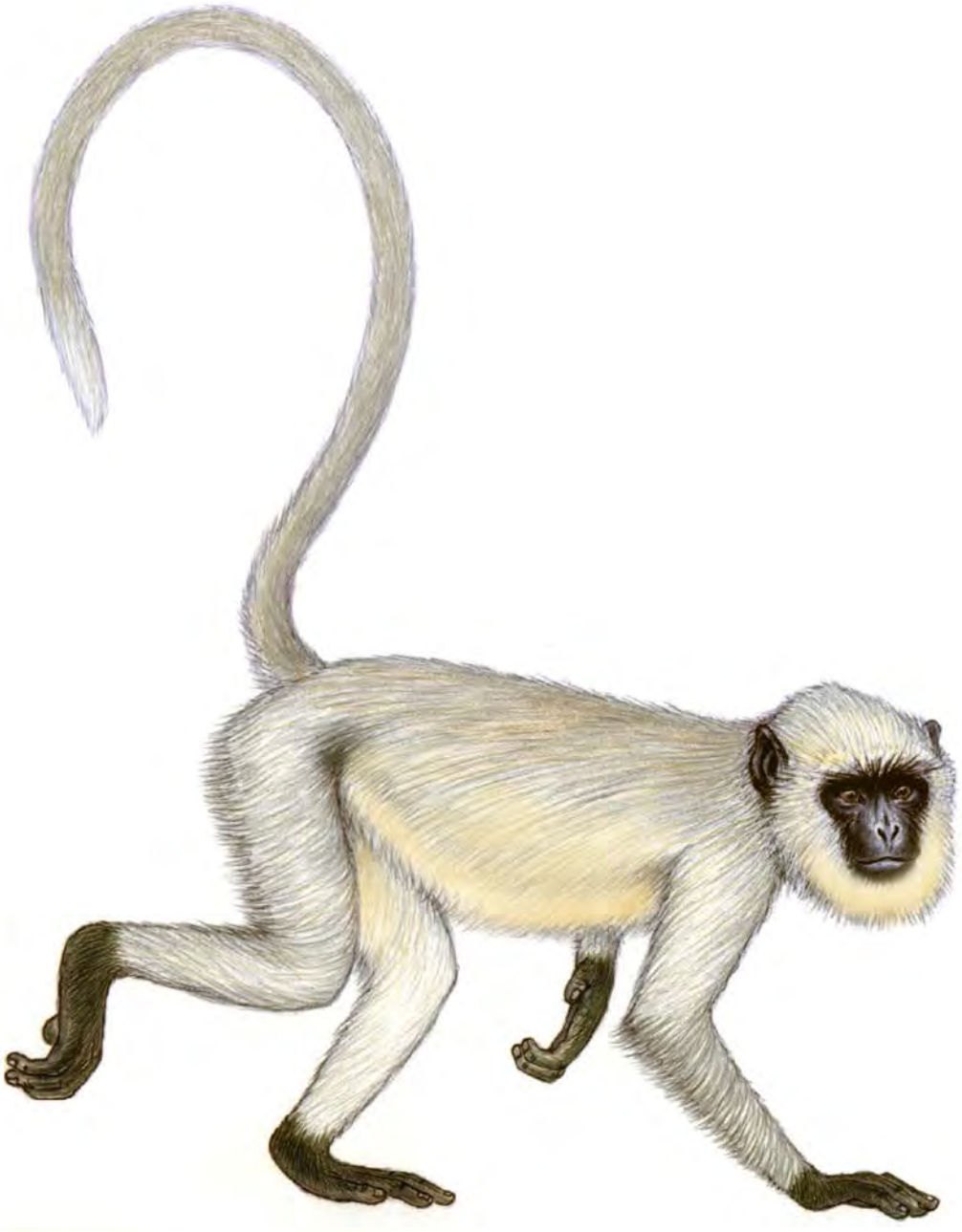

Figure 9: Monkey Stamp Seal from Trapeza, Crete, Greece. Adapted from Pareja 2017: 54, fig. 5.1.

Figure 10: Line drawing of A Man and Monkey on an Amygdaloid Seal from Prassa, Crete, Greece. Adapted from CMS III 357.

Figure 11: Offering to the Seated Goddess Fresco from Room 3a, Xeste 3, Akrotiri, Thera, Greece. Image courtesy of Ray Porter.

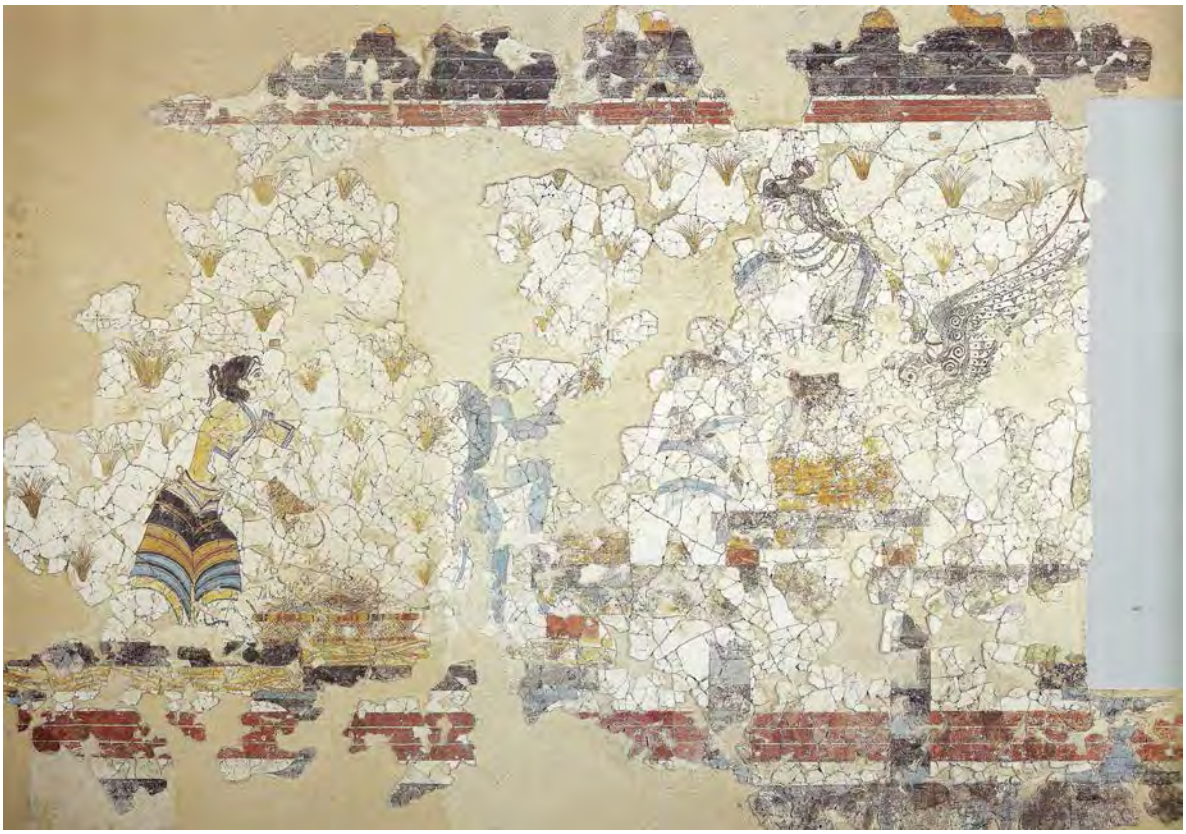

Figure 12: Line Drawing of a Mesopotamian Presentation Scene. Adapted from British Museum Object number 115418.